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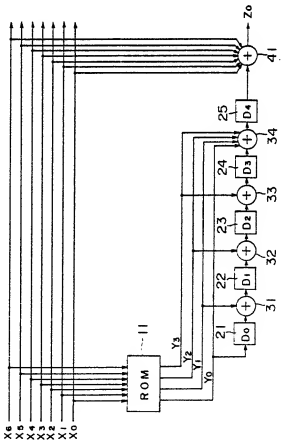
(54) **Convolutional encoder.**

(57) An encoding apparatus comprises a converter and a convolutional encoder. The converter translates a k-bit input to an m-bit output, where m is smaller than k, and the k-bit input belongs to one of 2^m subsets of a set of 2^kelements, the m-bit output representing the subset to which the k-bit inputs belong. Each of the subsets has 2^{k-m}elements and the minimum Hamming distance between any of the 2^{k-m} elements is equal to or greater than the Hamming distance to be achieved by the encoder. The convolutional encoder is responsive to the k-bit input and the m-bit output of the converter to generate an (n-k)-bit output, where n is greater than k.

FIG.1



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